28197*

PATENT

Attorney Docket No.: AHA-02201

HAVERSTOCK & OWENS LLP
260 Sheridan Ave., Suite 420
Palo Alto, California 94306
(650) 833-0160

In re Application of: Eric John Hewitt *et al.*
Serial No.:   09/826,443
Filed: 04/04/2001
Entitled: **ENHANCED TURBO PRODUCT CODE DECODER SYSTEM**

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Transmitted herewith is a Preliminary Amendment in the above-identified application. The fee has been calculated as shown below.

	(Col. 1) CLAIMS REMAINING AFTER AMENDMENT		(Col. 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Col. 3) PRESENT EXTRA	RATE	ADDITIONAL FEE
Total Claims	* 20	MINUS	** 20	0	18.00	0.00
Independent Claims	* 4	MINUS	*** 3	1	84.00	84.00
First Presentation Of Multiple Dependent Claim					280.00	

TOTAL   84.00

Small Entity 50% Filing Fee Reduction (if applicable)   42.00

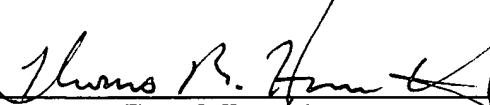*   If the entry in Col. 1 is less than the entry in Col. 2, write "0" in Col. 3.
**   If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, write "20" in this space.
***   If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, write "3" in this space.
The "Highest Number Previously Paid For" (Total or Independent is the highest number found from the equivalent box in Col. 1 of a prior amendment or the number of claims originally filed.)

1.   _   No additional fee is required.

2.   X   A check in the amount of $42.00 is attached.

3.   X   Please charge any additional fees, including any fees necessary for extensions of time, or credit overpayment to Deposit Account No. 08-1275. **An originally executed duplicate of this transmittal is enclosed for this purpose.**

4.   _   Petition for extension of time. The undersigned attorney of record hereby petitions for an extension of time pursuant to 37 C.F.R. § 1.136(a), as may be required, to file this response.

Dated: December 14, 2001

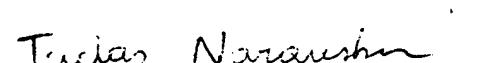By: _____
Thomas B. Haverstock
Registration No.: 32,571

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on December 14, 2001.

Dated: December 14, 2001

By: _____
Tadas Narauskas

- 1 -

#6/A
7-3-02
M.L.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	) Group Art Unit: Not yet assigned
	)
Eric J. Hewitt *et al.*	) Examiner: Not yet assigned
	)
Serial No.: 09/826,443	) **PRELIMINARY AMENDMENT**
	)
Filed: April 4, 2001	) 260 Sheridan Avenue, Suite 420
	) Palo Alto, California 94306
For: **ENHANCED TURBO PRODUCT**	) (650)833-0160
CODE DECODER SYSTEM	)

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

AMENDMENTS

RECEIVED

MAR 2 1 2002

Technology Center 2100

<u>Clean version of amendments to the specification</u>

<u>Title:</u>

ENHANCED TURBO PRODUCT CODE DECODER SYSTEM UTILIZING A LOGARITHMIC LIKELIHOOD RATIO APPROXIMATION METHOD

<u>Page 11, Line 10:</u>

Figure 5 shows a block diagram of the LLR module 206 in accordance with the present invention. The LLR module 206 includes an input pipe 302, a gain module 304, a PSK module 306, two QAM modules 308 and 310, a multiplexer 312, a Floating to Unsigned (FTU) converter 314 and an output pipe 316. The input pipe 302 receives the data as (I,Q) symbols and the gain module 304 scales the symbols by a multiplicative factor. The PSK module 306 and the QAM modules 308 and 310 receive a modulation signal which determines the modulation scheme in calculating the LLR of the data. The PSK module 306 computes the LLR of an I-Q pair by implementing the LLR equations for the LLR approximation. As shown in Figure 5, the LLR module has two QAM modules 308 and 310, each of which computes the LLR for all the bits in parallel. Preferably, the QAM modules 308 and 310 compute the LLR of half of the bits and feeds

the LLR values into the multiplexer 312 as a LLR result. The FTU converter 314 takes the result of the LLR from the multiplexer 312 and converts it into an unsigned number. The FTU converter 314 preferably converts the LLR result into the unsigned values, which are determined from the SOFT_BITS value.